FAA National Software Conference, May 2002
Verification Tools Brainstorming

Verification Tools Brainstorming Session

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Session Purpose

- Discuss the current state of the art and future in the area of software verification tools as applied to development of safety-critical avionics software

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Research Effort

- The FAA is initiating a research task with NASA Langley to study software verification tools
- The purpose is to provide clear criteria that both the FAA and industry can use to assess the suitability of verification tools to meet DO-178B objectives
- The task will focus on defining clear criteria for qualifying structural coverage tools

Topics to Discuss

We want to gather information on software verification tools in general

- What kinds of verification tools are you using today?
- What kinds of verification tools do you anticipate using in the future?
- What are common problems with verification tools?

Topics to Discuss (cont)

We want to gather information on software tool qualification

- What tools have you qualified or are considering for qualification?
- What are barriers to qualification of verification tools?
- Do tools for object oriented design and programming present new issues for tool qualification?
- What would help to enable better tool qualification?

Topics to Discuss (cont)

We want to gather information specific to structural coverage tools

- Types of coverage
  - decision coverage versus branch coverage
  - modified condition/decision coverage
- Coverage at object-code level
- Other issues?